



## Generalized residential building typology for urban climate change mitigation and adaptation strategies: The case of Hungary

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### Abstract:

Climate change has a dual implication on the built environment: on one hand human settlements and buildings are vulnerable to the effects of changing climate and on the other hand the building sector has a significant climate change mitigation potential. The relevant sustainable development and building policies as well as the building design, construction and maintenance strategies should jointly respond both to adaptation to and mitigation of climate change. What should city developers focus on in order to plan a sustainable and safe city in a changing climate? This paper provides answers to this question, presenting a bottom-up methodology based on a generalized building typology of the residential building stock in order to estimate the mitigation potential and vulnerability of the residential sector. During the research, a case study has been implemented in Hungary to assess the structural impacts and vulnerability on the roof, particularly with respect to the wind load and to estimate the potential decrease of CO<sub>2</sub> emission through refurbishment. Through the case study the paper highlights the most problematic areas of the city both from vulnerability and mitigation point of view where the attention of the city developers should be turned.

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### Resource Description

#### Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event

**Extreme Weather Event:** Other Extreme Event

**Extreme Weather Event (other):** Windstorms

#### Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

#### Geographic Location:

resource focuses on specific location

Non-United States

# Climate Change and Human Health Literature Portal

**Non-United States:** Europe

**European Region/Country:** European Country

**Other European Country :** Hungary

**Health Impact:** 

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

**Intervention:** 

strategy to prepare for or reduce the impact of climate change on health

A focus of content

**Mitigation/Adaptation:** 

mitigation or adaptation strategy is a focus of resource

Adaptation, Mitigation

**Resource Type:** 

format or standard characteristic of resource

Research Article

**Timescale:** 

time period studied

Time Scale Unspecified

**Vulnerability/Impact Assessment:** 

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content